

### DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 08 June 2009 has been entered.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 3, 6-11, 14-19, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakajima (JP 4-335557) in view of Nakazato et al (EP 0 741 269) and further in view of Cheon (2004/0008483) and Novotny et al (7,252,139).

Nakajima discloses a cooling installation (Fig. 1) for cooling electronic equipment and thus capable of cooling a switchgear cabinet (see English language abstract) including a heat exchanger or a plurality of parallel operated heat exchangers (12 in Fig. 1) housed in a heat exchanger cabinet (3) having an interior coupled to an air inlet opening and an air outlet opening (Fig. 1), cold air supplied to the cabinet being conducted over a heat exchanger and cooling a

coolant flowing therein (Fig. 1), a water inflow and return flow of one of the heat exchange being connected with a feed line and return line of each of the switchgear cabinets to be cooled (at 12 in Fig. 1), the parallel heat exchangers being arranged horizontally aligned (Fig. 1) and nearly fill the interior of the heat exchanger cabinet (Fig. 1), a pump (10) in the water flow line, a fan positioned on the heat exchanger cabinet and having an opening connected with the interior (Fig. 1), a fan removing air from the interior (Fig. 1), an air inlet located in the cabinet bottom (Fig. 1), the heat exchanger (5) extending over an entire height of the interior (Fig. 1), the parallel heat exchangers (12) being arranged on top of each other (Fig. 1).

Nakajima does not appear to disclose part of the cold air being fed from the double bottom into the interior and remaining cold air being conducted further in the double bottom.

Nakazato et al disclose a cooling installation where part of the cold air is fed from the double bottom into the interior and the remaining cold air is conducted further in the double bottom.

It would have been obvious in view of Nakazato et al to provide air flow arrangements in which part of the cold air is fed from the double bottom into the interior and the remaining cold air is conducted further in the double bottom for the cooling installation of Nakajima, the motivation being to enable use of the cooling system to cool multiple cabinets or devices.

Nakajima and Nakazato et al do not appear to disclose an individual pump connected in the feed line of each of the heat exchangers and an expansion vessel additionally connected in the feed line of an uppermost one of the parallel heat exchangers.

Cheon discloses an electronic cabinet cooling system including an individual pump (33) connected in the feed line of each of the heat exchangers (see Fig. 10).

It would have been obvious in view of Cheon to use an individual pumps connected in the feed line of each of the heat exchangers of Nakajima in view of Nakazato et al, the motivation being to enable controlling flow to individual heat exchangers.

Novotny et al discloses an expansion vessel (67) connected to a liquid cooling system for electronic circuitry.

It would have been obvious in view of Novotny et al to use an expansion vessel connected the heat exchangers of Nakajima in view of Nakazato et al, the motivation being to compensate for fluid expansion.

4. Claims 3, 14, 16, and 19 are objected to because of the following informalities: 3, 14, 16, and 19 should be amended to depend from claim 21. Appropriate correction is required.
5. Applicant's arguments with respect to claims 3, 6-11, 14-19, and 21 have been considered but are moot in view of the new ground(s) of rejection.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Teresa J. Walberg whose telephone number is 571-272-4790. The examiner can normally be reached on M-F 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Teresa J. Walberg/  
Primary Examiner, Art Unit 3744

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